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| 09/514,451  | 02/25/2000  | Anand G. Dabak       | TI-28997            | 7626             |
| 7590  | 01/12/2004  |                      |                     |                  |
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| EXAMINER<br>FERRIS, DERRICK W   |             |                      |                     |                  |
| ART UNIT  |             | PAPER NUMBER         |                     |                  |
| 2663  |             | 9                    |                     |                  |

DATE MAILED: 01/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/514,451

Applicant(s)

DABAK, ANAND G.

Examiner

Derrick W. Ferris

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-70 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-70 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 April 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Response to Amendment*

1. **Claims 1-70** as amended are still in consideration for this application. Applicant has amended claims 8 and 14. **Applicant has added claims 15-70.**
2. Examiner **withdraws** the obviousness rejection to *Calderband et al.* ("*Calderband*") in view of *Shinoda et al.* ("*Shinoda*") for Office action filed 07/14/2003. In addressing applicant's arguments in the response filed 12/12/2003, applicant is correct in noting that the references in combination may not teach at least the further underlined limitation of "*calculating a signal strength of each respective signal of the plurality of signals*". In particular, *Shinoda* discloses calculating an overall signal strength (e.g., see section 3.3 on page 321).
3. Examiner **withdraws** the obviousness rejection to *Hottinen et al.* ("*Hottinen*") for Office action filed 07/14/2003. In addressing applicant's arguments in the response filed 12/12/2003, applicant argues that *Hottinen* does not teach a plurality of transmitters. Examiner respectfully disagrees. In particular, *Hottinen* teaches the concept of transmit diversity (i.e., more than one transmit antenna and not antenna diversity) e.g., see Section III on page 768. As such, please find a modified rejection below using the *Hottinen* reference.

### *Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. **Claims 1-70** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,415,149 B1 to *Bevan et al.* (“*Bevan*”) in view of “Transmit Diversity to Antenna Selection in CDMA Downlink” to *Hottinen et al.* (“*Hottinen*”) (cited in prior rejection) and “A Simple Transmit Diversity Technique for Wireless Communications” to *Alamouti* (cited by applicant in IDS and specification).

As to **claim 1**, the prior art teaches obtaining SIR information for each base station in order to select the best base station (e.g., see applicant’s figure 7). In particular, applicant’s figure 7 shows a closed-loop or feedback system (not claimed by applicant) for sending a frame used to select a base station based on a selection circuit 720 using SIR information for each received base station. Applicant recognizes that SIR information may not correspond to a good error rate within a cell such that a better method is needed. Applicant’s proposed solution is to also select a base station with a best transmit diversity to reduce the power within a cell. By way of example, selection circuit shown as 720 in figure 7 is modified to include also selecting based on the diversity of each base station as shown in selection circuit 620 in figure 6. Thus, e.g., the limitation “*determining which of the plurality of remote transmitters use transmit diversity*” is shown, inter alia, as Diversity BTS and “*calculating a signal strength of each respective signal of the plurality of signals*” is shown, inter alia, as SIR BTS. As claimed by applicant, a selection process (e.g., shown as 620 in figure 6) uses both (1) a step or determining based on transmit diversity and (2) a step of calculating based on signal strength (e.g., SIR). (In other words a combination of (1) transmit diversity and (2) signal strength are used in a selection process taught by applicant.) As such, *Bevan*

provides the motivation for using both signal strength and signal diversity at a mobile station (e.g., see column 3, lines 30-35). In particular, *Bevan* teaches receiving a plurality of signals from a plurality of remote transmitters as part of a soft handoff (either at a single base station or for a plurality of base stations). Furthermore, *Bevan* teaches calculating a signal strength of each respective signals of the plurality of signals in order to calculate (and receive/select) the strongest signal (i.e., one of the remote transmitters in response to calculating). Thus *Bevan* teaches the combination.

*Bevan* may be silent or deficient to specifically mentioning transmit diversity. In particular, *Bevan* teaches using signaling diversity in general. Examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to use transmit diversity as part of signaling diversity. As support and motivation, *Hottinen* and *Alamouti* disclose transmit diversity for a wireless system where *Hottinen* further teaches that such a system could be CDMA. Thus one skilled in the art would be motivated to use transmit diversity where transmit diversity would be used to improve system performance in a selection process by selecting the best signaling path. In particular, *Hottinen* teaches the concept of Selective Transmit Diversity (STD). Examiner would like to further point out that applicant admits *Alamouti* as prior art where *Alamouti* does not teach WCDMA (see applicant's specification on page 2, middle paragraph). However, not specifically claimed by applicant is the further limitation of WCDMA. *Hottinen* on the other hand teaches CDMA. Thus *Hottinen* and *Alamouti* provide support for using transmit diversity as part of a selection process.

As to **claims 2-3**, see e.g., column 7, lines 13-16 of *Bevan*.

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As to **claims 4-6**, see e.g., column 5, lines 50-65 of *Bevan*.

As to **claim 7**, see e.g., right-hand column on page 767 of *Hottinen*.

As to **claim 8**, see e.g., column 10, lines 55-59 of *Bevan*.

As to **claim 9**, see similar rejection of claim 1.

As to **claim 10**, see similar rejection of claim 4.

As to **claim 11**, see similar rejection of claim 7.

As to **claim 12**, see similar rejection of claim 7.

As to **claim 13**, see similar rejection of claim 7.

As to **claim 14**, see e.g., column 6, lines 19-38 of *Bevan*.

As to **claims 15, 16, and 17**, a plurality of signals is received from each transmitter in the group (other signals are also received by other groups but these signals are filtered using group interference suppression). Thus see similar rejections for claims 1, 2, and 3 respectfully.

As to **claim 18**, see the rejection of claim 10.

As to **claim 19**, see the rejection of claim 5.

As to **claim 20**, see the rejection of claim 6.

As to **claim 21**, see the rejection of claim 7.

As to **claim 22**, see the rejection of claim 8.

As to **claim 23**, see the rejection of claim 9.

As to **claim 24**, see the rejection of claim 10.

As to **claim 25**, see the rejection of claim 11.

As to **claim 26**, see the rejection of claim 12.

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As to **claim 27**, see the rejection of claim 13.

As to **claim 28**, see the rejection of claim 14.

As to **claims 29, 30, and 31**, each group has its own space-time code. In addition, CDMA is support by both *Bevan* and *Hottinen* such that the same codes are used for base stations.

As to **claim 32**, see the rejection of claim 10.

As to **claim 33**, see the rejection of claim 5.

As to **claim 34**, see the rejection of claim 6.

As to **claim 35**, see the rejection of claim 7.

As to **claim 36**, see the rejection of claim 8.

As to **claim 37**, see similar rejection of claims 9 and 29. In addition, CDMA is support by both *Bevan* and *Hottinen* such that the same codes are used for base stations.

As to **claim 38**, see the rejection of claim 10.

As to **claim 39**, see the rejection of claim 11.

As to **claim 40**, see the rejection of claim 12.

As to **claim 41**, see the rejection of claim 13.

As to **claim 42**, see the rejection of claim 14.

As to **claims 43, 44, and 45**, *Bevan* teaches using base stations.

As to **claim 46**, see the rejection of claim 10.

As to **claim 47**, see the rejection of claim 5.

As to **claim 48**, see the rejection of claim 6.

As to **claim 49**, see the rejection of claim 7.

As to **claim 50**, see the rejection of claim 8.

As to **claim 51**, see similar rejection of claims 9 and 43.

As to **claim 52**, see the rejection of claim 10.

As to **claim 53**, see the rejection of claim 11.

As to **claim 54**, see the rejection of claim 12.

As to **claim 55**, see the rejection of claim 13.

As to **claim 56**, see the rejection of claim 14.

As to **claims 57, 58, and 59**, each group has its own space-time code. In addition, CDMA is support by both *Bevan* and *Hottinen* such that the same codes are used for base stations.

As to **claim 60**, see the rejection of claim 10.

As to **claim 61**, see the rejection of claim 5.

As to **claim 62**, see the rejection of claim 6.

As to **claim 63**, see the rejection of claim 7.

As to **claim 64**, see the rejection of claim 8.

As to **claim 65**, see the rejection of claims 9 and 57.

As to **claim 66**, see the rejection of claim 10.

As to **claim 67**, see the rejection of claim 11.

As to **claim 68**, see the rejection of claim 12.

As to **claim 69**, see the rejection of claim 13.

As to **claim 70**, see the rejection of claim 14.



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***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Derrick W. Ferris whose telephone number is (703) 305-4225.

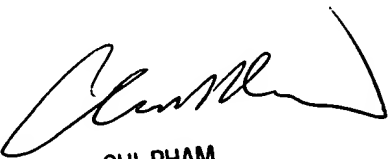
The examiner can normally be reached on M-F 9 A.M. - 4:30 P.M. E.S.T.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (703) 308-5340. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 305-3900.

Derrick W. Ferris  
Examiner  
Art Unit 2663

DWP 

  
CHI PHAM  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600 1/7/08